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PROSKAUER ROSE LLP
PATENT DEPARTMENT
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EXAMINER

MCNELIS, KATHLEEN A

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/539,099

Applicant(s)

ENGL ET AL.

Examiner

Kathleen A. McNelis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Claims Status

Claims 1-17 remain for examination wherein claims 1 and 4-17 are amended. Claim 17 is withdrawn, being drawn to a nonelected invention.

Examiner's Comments

Please check spelling, e.g. "teel" in claim 4 should be "steel".

The English translation of the International Report on Patentability indicates that CA 2414138 has an error in the publication date and that the actual publication date was 19 December 2002. Examiner has made a rejection below using this reference, however the rejection may be overcome by providing satisfactory evidence that the date is in error as well as the required certified translation of the foreign priority document DE 102 59 230.6 in accordance with 37 CFR 1.55. See MPEP § 201.15.

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 1-16 in the reply filed on 03/08/2007 is acknowledged. Because applicant did not distinctly state that election was with traverse, or specifically point out any errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 limits annealing temperature to between 600 and 750 °C.

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Claim 12, depending from claim 11 limits the annealing temperature to between 750 and 1100 °C, which is outside the range of the parent claim limitations.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 9-15 of copending Application No. 10/344,192 in view of the Metals Handbook, Vol. 1. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

With respect to instant claims 1-3, and 14-16, '192 discloses in claims 1 – 4 a steel of essentially the same composition. '192 claim 10 discloses that the steel is cold rolled.

'192 does not disclose cold forming to between 2 to 25%.

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The Metals Handbook teaches that for applications where surface finish is important, steels are cold reduced, usually by $\frac{1}{2}$ to 2% which is effective for preventing stretcher strains (pp. 204-206) and improves the fatigue resistance (pp. 377 (Fig. 8) and 679-681). It would have been obvious to one of ordinary skill in the art to cold reduce as taught by the Metals Handbook the steel of '192 since this will improve surface finish and properties as taught by the Metals Handbook. The range of $\frac{1}{2}$ to 2% overlaps the range of 2 to 25% (claim 1) or a maximum of 15% (claim 2) or 10% maximum (claim 3), therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). It would have been obvious to one of ordinary skill in the art to reduce by 2%, since the Metals Handbook teaches that the entire range between $\frac{1}{2}$ to 2% is usually effective.

With respect to instant claims 4-8, '192 discloses in claim 9 a cast input stock, heated to 1100 ° C for hot rolling to a final temperature of at least 800 ° C and coiling at between 450 and 700 ° C and in claim 10 discloses cold rolling.

With respect to instant claims 9-12, '192 claim 11 discloses annealing at a temperature of 600 to 1100 ° C; '192 claim 12 discloses hood (i.e. bell) annealing at 600 to 750 ° C; and '192 claim 13 discloses continuous annealing at 750 to 1100 ° C.

With respect to instant claim 13, '192 claim 15 discloses a reduction of 30 to 75%.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canadian patent publication 2,414,138 (CA '138) in view of the Metals Handbook, Vol. 1.

With respect to claims 1-4 and 13, CA '138 discloses a light steel alloy of the same composition (abstract and claim 1) as in instant claim 1. CA '138 discloses casting to thin slabs or strip, hot rolling, coiling (i.e. winding) (p. 8) as in claim 4 and cold rolling after coiling at a reduction of 30 to 75% (p. 9) as in instant claims 1, 4 and 13. The steel is suitable for use in automobile body components, especially for outer panels (p. 12).

CA '138 does not disclose cold forming to between 2 to 25%.

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The Metals Handbook teaches that for applications where surface finish is important, steels are cold reduced, usually by $\frac{1}{2}$ to 2% which is effective for preventing stretcher strains (pp. 204-206) and improves the fatigue resistance (pp. 377 (Fig. 8) and 679-681). It would have been obvious to one of ordinary skill in the art to cold reduce as taught by the Metals Handbook the steel of CA '138 since this will improve surface finish as taught by the Metals Handbook and would be desirable for outer panels of automobiles as desired in CA '138. The range of $\frac{1}{2}$ to 2% overlaps the range of 2 to 25% (claim 1) or a maximum of 15% (claim 2) or 10% maximum (claim 3), therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). It would have been obvious to one of ordinary skill in the art to reduce by 2%, since the Metals Handbook teaches that the entire range between $\frac{1}{2}$ to 2% is usually effective.

With respect to claims 5-9, CA '138 discloses heating to 1100 °C before hot rolling, with an end temperature of at least 800 °C and winding temperature of 450 to 700 °C (p. 8).

With respect to claims 10-12, CA '138 discloses annealing at temperatures between 600 and 750 °C in a hood (i.e. bell type), or continuously in an annealing furnace at from 750 to 1100 °C (p. 9).

With respect to claim 14, CA '138 discloses a range of > 2.5 to 8% Si which overlaps the range of > 2.7%, therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05).

With respect to claims 15 and 16, CA '138 discloses a range of > 0 to < 0.01% B, which overlaps the claimed range of 0.002 to 0.01 % (claim 15) and 0.003 to 0.008% (claim 16), therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05).

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Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guelton et al. (U.S. Pat. No. 6,358,338) in view of the Metals Handbook, Vol. 1 alone or further in view of Brager et al. (U.S. Pat. No. H326) or Japanese patent document 58-144418 (JP '418)¹.

With respect to claims 1-4 Guelton et al. (abstract) discloses a steel strip made by casting, cold rolling and annealing and having composition overlapping the claimed ranges as follows:

Element	Composition wt%		
	Instant claim 1	Guelton et al.	Overlap
C	≤ 1.00	0.001 to 1.6	0.001 to 1.00
Mn	7.00 to 30.00	6 to 30	7 to 30
Si	> 2.50 to 8.00	≤ 2.5	2.5
Al	$Al + Si > 3.5$ to 12.00	≤ 6	See below

Since the ranges overlap, a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). Further, at overlapping Si composition of 2.5, ranges of Al can be selected from the disclosed amount of ≤ 6 that satisfy the relationship $Al + Si > 3.5$ to 12.00.

Guelton et al. discloses casting to form a thin strip (col. 3 lines 32-39), hot rolling (col. 3 lines 59-67), coiling (i.e. winding) (col. 4 lines 19-29) and cold rolling (col. 4 lines 31-41) followed by recrystallization annealing (col. 4 lines 42-65) and if desired by skin-pass (i.e. temper rolling) operation by the usual methods (col. 5 lines 35-38).

Guelton et al. does not recite that the skin pass (i.e. temper rolling) is cold forming at between 2 to 25% (claim 1) or a maximum of 15% (claim 2) or a maximum of 10% (claim 3).

The Metals Handbook teaches that for applications where surface finish is important, steels are cold reduced, usually by $\frac{1}{2}$ to 2%, which is effective for preventing stretcher strains (pp. 204-206) and improves the fatigue resistance (pp. 377 (Fig. 8) and 679-681). It would have been obvious to one of ordinary skill in the art to cold reduce as taught by the Metals Handbook the steel of Guelton et al. since this will improve surface finish as taught by the Metals Handbook and

¹ Based on English abstract.

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since no reduction degree is specified for skin-pass rolling in Guelton et al. The range of ½ to 2% overlaps the range of 2 to 25% (claim 1) or a maximum of 15% (claim 2) or 10% maximum (claim 3), therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). It would have been obvious to one of ordinary skill in the art to reduce by 2%, since the Metals Handbook teaches that the entire range between ½ to 2% is usually effective.

With respect to claims 5-8, Guelton et al. teaches that the temperature at which the hot rolling and coiling is carried out is not of great importance (col. 4 lines 1-30). It is well settled that where the principal difference between a claimed process and that taught by reference is a temperature difference, it is incumbent upon applicants to establish the criticality of that difference (Ex parte Khusid, et al., 174 USPQ 59).

Alternatively, regarding claims 5-7, Guelton et al. does not disclose that the steel is heated to at least 1100 °C before hot rolling (claims 5 and 6) or exit temperature of at least 800 °C (claim 7).

Brager et al. discloses a steel of similar composition (abstract and Table I) which is heated to about 1250 °C for homogenization heat treatment prior to hot rolling, then reheated to 1000 °C before hot rolling (col. 6 lines 64-68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat to about 1250 °C for homogenization as taught by Brager et al. the steel of Guelton et al. in view of the Metals Handbook, Vol. 1 since Brager et al. discloses this temperature for homogenization of a similar steel subjected to a similar process.

JP '418 discloses production of a high manganese (16-30%) steel by a similar production method and teaches that heating the slab to above 900 °C and holding at between 1200 and 1050 °C prevents cracking during hot-rolling (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the steel to above 900 °C and holding at

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between 1200 and 1050 °C as taught by JP '418 in the process of Guelton et al. in view of the Metals Handbook, Vol. 1 to prevent cracking as taught by JP '418.

With respect to claims 9-12, Guelton et al. discloses recrystallization annealing after cold rolling at a temperature of between 800 and 850 °C for continuous annealing and 700 to 750 °C for box (i.e. bell type) annealing (col. 4 lines 42-59). Both ranges are within the claimed range of between 600 and 1100 °C (claim 10) and overlap the range of 750 to 1100 °C (claim 12). 700 to 750 °C is within the range of 600 to 750 °C (claim 11).

With respect to claim 13, Guelton et al. discloses that the cold rolling is from 10 to 90% (col. 4 lines 31-40), which overlaps the claimed range of 30 to 75%.

With respect to claim 14, the Si content of 2.5% is close enough to 2.7% that one of ordinary skill in the art would expect the same results therefor a prima facie case of obviousness exists (M.P.E.P § 2144.05).

With respect to claims 15 and 16, Guelton et al. discloses B as part of a sum of alloying constituents whose sum is $\leq 3\%$. The range of $\leq 3\%$ overlaps the claimed range s of 0.002 to 0.01% (claim 15 and 0.003 to 0.008% (claim 16), therefore a prima facie case of obviousness exists.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brager et al. (H326) in view of the Metals Handbook, Vol. 1.

With respect to claims 1-3, Brager et al. discloses a steel with composition overlapping the claimed steel as follows:

Element	Composition wt%		
	Instant claim 1	Brager et al.	Overlap
C	≤ 1.00	< 0.7	< 0.7
Mn	7.00 to 30.00	25 - 40	25 - 30
Si	> 2.50 to 8.00	0.4 - 3.0	2.5 - 3.0
Al	Al + Si > 3.5 to 12.00	< 3.0	See below

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Since the ranges overlap, a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). Further, at overlapping Si composition of 2.5-3.0, ranges of Al can be selected from the disclosed amount of < 3 that satisfy the relationship $Al + Si > 3.5$ to 12.00. Although Brager et al. also discloses a required 5 to 15-wt% Cr, such is not precluded by the instant claims. Brager et al. discloses cold rolling (col. 7 lines 1-8).

Brager et al. does not recite an additional step of cold forming at between 2 to 25% (claim 1) or a maximum of 15% (claim 2) or a maximum of 10% (claim 3).

The Metals Handbook teaches that for applications where surface finish is important, steels are cold reduced, usually by $\frac{1}{2}$ to 2% which is effective for preventing stretcher strains (pp. 204-206) and that such cold working improves fatigue resistance (pp. 377 (Fig. 8) and 679-681). It would have been obvious to one of ordinary skill in the art to cold reduce as taught by the Metals Handbook the steel of Brager et al. since this will improve surface finish and properties as taught by the Metals Handbook. The range of $\frac{1}{2}$ to 2% overlaps the range of 2 to 25% (claim 1) or a maximum of 15% (claim 2) or 10% maximum (claim 3), therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05). It would have been obvious to one of ordinary skill in the art to reduce by 2%, since the Metals Handbook teaches that the entire range between $\frac{1}{2}$ to 2% is usually effective.

With respect to claims 4-8, Brager et al. further teaches a homogenizing treatment at 1250 °C and reheating to about 1000 °C prior to hot rolling (col. 6 line 64 – col. 7 line 5). The temperature of 1250 °C is within the range of at least 1100 °C and the range of about 1000 °C is close enough to the range of at least 1100 °C that one of ordinary skill in the art would expect the same results. Although Brager et al. does not recite a coiling step, such process limitations appear to be standard and conventional when producing steel strip. Further, applicant has not shown (i.e.

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by comparative test data) that claimed limitations including coiling (winding temperature) are critical and productive of new and unexpected results.

With respect to claims 9-12, Brager et al. discloses annealing following cold rolling steps at about 1030 °C (col. 7 line 1-8), which is within the claimed ranges of claims 10, 11. While Brager et al. does not recite that the annealing is either continuous or bell-type, such process limitations appear to be standard and conventional when producing steel strip. Further, applicant has not shown (i.e. by comparative test data) that claimed limitations including annealing method (continuous or bell) or annealing temperature when using bell type annealing are critical and productive of new and unexpected results.

With respect to claim 13, Brager et al. discloses reduction by 40 to 60% (col. 7 lines 1-8), which overlaps the claimed range of 30 to 75%, therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05).

With respect to claim 14, the range of 0.4 to 3.0 overlaps the claimed range of more than 2.7; therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05).

With respect to claims 15 and 16, Brager et al. discloses up to 0.01 wt% B (claim 1) which overlaps the claimed range of 0.002 to 0.01 % (claim 15) and 0.003 to 0.008% (claim 16) therefore a prima facie case of obviousness exists (see M.P.E.P. § 2144.05).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571 272 3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAM

04/03/2007 
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